

*FM*

(iv) a first modulator, coupled to the first rf transmitter, for modulating the first carrier with the first reference signal;

(c) a portable child unit of a size permitting it to be worn by a human subject, the child unit having:

(i) a second receiver, tuned to the first carrier frequency, for receiving a signal broadcast from the output of the first transmitter;

(ii) a digital decoder for decoding the digital signature from the signal received by the second receiver and providing a decoded output;

(iii) an inhibitor arrangement, coupled to the digital decoder, for preventing transmission by the child unit unless the decoded output meets criteria stored in the child unit;

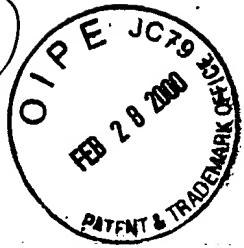
(iv) a second rf transmitter, operative at a second carrier frequency, and having an output; and

(v) a second modulator, coupled to the second rf transmitter and to the second receiver, for modulating the second carrier with a second reference signal having a prespecified phase relationship to the first reference signal as received by the second receiver;

(d) a first receiver portion, disposed in the parent unit, the first receiver portion having:

(i) a first receiver, tuned to the second carrier frequency, for providing an output of the demodulated second reference signal; and,

(ii) a distance resolver, coupled to the first receiver and the signal generator, for providing an output signal dependent on the phase relationship, between the first reference signal and the demodulated second reference signal, that is



indicative of the distance between the child unit and the  
parent unit.

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8. A system of the type having a plurality of transceiver units for generating an alarm when a child transceiver unit is more than a predetermined distance away from a parent transceiver unit, the system comprising:

- (a) a portable parent unit;
- (b) a first transmitter portion, disposed in the parent unit, the first transmitter portion having:
  - (i) a first rf transmitter, operative at a first carrier frequency, having an output;
  - (ii) a signal generator for generating a first reference signal;
  - (iii) a first digital encoder for digitally encoding the carrier with a digital signature to identify the output of the first transmitter;
  - (iv) a first FM modulator, coupled to the first rf transmitter, for modulating the first carrier with the first reference signal;
- (c) a portable child unit of a size permitting it to be worn by a human subject, the child unit having:
  - (i) a second receiver, tuned to the first carrier frequency, for receiving a signal broadcast from the output of the first transmitter;
  - (ii) a digital decoder for decoding the digital signature from the signal received by the second receiver and providing a decoded output;
  - (iii) an inhibitor arrangement, coupled to the digital decoder, for preventing transmission by the child unit unless the decoded output meets criteria stored in the child unit;
  - (iv) a second rf transmitter, operative at a second carrier frequency, and having an output; and
  - (v) a second FM modulator, coupled to the second rf transmitter and to the second receiver, for modulating the second carrier with a second reference signal having a prespecified phase relationship to the first reference signal as received